

In the Drawings

Please amend Fig. 7 (adding a label "102b") as show in the accompanying drawing sheets.

Attachments

Annotated Drawing Sheet

Substitute Drawing Sheet

REMARKS

This is a full and timely response to the outstanding Action mailed September 20, 2005. Upon entry of the amendments in this response, claims 1-14 remain pending. In particular, Applicant has amended claims 1, 5, and 10 and has cancelled claims 2-3 and 7-9 without waiver, disclaimer, or prejudice to the subject matter contained therein.

Among other features, amended claims 1 and 5 recite: "a compensation structure extending from the gate or the gate line." Support for these amendments can be found at various portions of the application. By way of example, Figs. 6 and 7 respectively show a compensation structure 102a/102b extending from the gate G (Fig. 6) or the gate line 102 (Fig. 7). Accordingly, no new matter has been added to the application by these amendments. Reconsideration and allowance of the application and presently pending claims are respectfully requested.

Rejections under 35 U.S.C. 102

The Office Action indicates that claims 1-5 and 7-14 stand rejected under 35 U.S.C. 102(b) as allegedly anticipated by Ukita (US Pat. 6,310,668). Applicant respectfully traverses the rejections.

With respect to Ukita, Ukita discloses several embodiments (mainly indicated as prior art) relevant to a LCD device with compensation structure. In one embodiment, the device includes a gate electrode 32 and a compensating gate electrode which are so arranged as to extend in a direction perpendicular to a longitudinal direction of a gate bus wiring 33. A compensating source electrode 62 is disposed over both the source electrode 40 and the

compensating gate electrode 61 in a partially overlapping relationship therewith (See col. 4, lines 31-37, and Fig. 11).

In another embodiment, the device includes a pair of gate electrodes 32 and 34 are disposed substantially perpendicular to a gate bus wiring 33. A drain electrode 39 is disposed between the gate electrodes 32 and 34. A pair of source electrodes 40 and 41 are disposed outside the gate electrodes 32 and 34 in a partially overlapping relationship with these gate electrodes 32 and 34, respectively, to keep the parasitic capacitance C_{gs} appearing between the gate and source electrodes at a constant value (See col. 5, lines 12-34 and Fig. 14).

In yet another embodiment, the device includes a gate electrode 32 perpendicular to a gate bus wiring 33 having its portion bent so as to extend in a direction parallel to a longitudinal direction of the gate bus wiring 33. A source electrode 40 is disposed so as to partially overlap with the portion of the gate electrode 32, keeping the parasitic capacitance C_{gs} appearing between the gate and source electrodes at a constant value (See col. 6, lines 4-21, and Fig. 16).

In Fig. 14, one side of the source electrode 40 overlaps the gate electrode 32 and the opposite side of the source electrode 40 overlaps the compensating source electrode 62, rather than the compensating gate electrode 61, which extends from the gate bus wiring 33. In Fig. 14, the capacitance compensation is obtained by the pair of source electrodes 40 and 41 partially overlaps the gate electrodes 32 and 34, respectively. There is not a source electrode having two opposite sides to overlap the gate and the compensating electrode extending from the gate bus wiring 33, respectively. Fig. 16, the capacitance compensation is obtained by the hatched portion which is an overlapping region between the source electrode 40 and the gate electrode 39. Also, there is not a source electrode having two opposite sides to overlap the gate and the compensating electrode extending from the gate line or gate, respectively.

Turning now to claims, amended claim 1 recites:

1. A liquid crystal display device with a capacitance-compensated structure, comprising:
a gate line;
a gate electrically connected to the gate line;
a compensation structure extending from the gate or the gate line;
and
a drain having a first side opposite to a second side, wherein the first side of the drain overlaps the gate and the second side of the drain overlaps the compensation structure.

(Emphasis Added).

As set forth above, Applicant respectfully asserts that Ukita does not teach or reasonably suggest at least the features/limitations that have been emphasized above in independent claim 1.

For example, none of the cited embodiments disclosed by Ukita teaches or suggests that a source electrode having two opposite sides, which one of them overlap the gate and the other overlaps the compensating structure extending from the gate or gate line. Accordingly, Applicant respectfully asserts that the rejection of claim 1 is deficient and that claim 1 is in condition for allowance. Further, since dependent claim 4 incorporates the limitations of claim 1, and is not otherwise rejected in the Office Action, Applicant respectfully asserts that this claim is also in condition for allowance.

With respect to claim 5, that claim recites:

5. A liquid crystal display device with a capacitance-compensated structure, having a gate line and a data line to turn a thin film transistor on or off, comprising:
a gate electrically connected to the gate line;
a drain having a first side opposite to a second side, wherein a first parasitic capacitor is formed between the first side of the drain and the gate and a second parasitic capacitor is formed between the second side of the drain and the gate, wherein the second parasitic capacitor comprises the second side of the drain and a compensation structure extending from the gate or the gate line.

(Emphasis Added).

As set forth above, Applicant respectfully asserts that Ukita does not teach or reasonably suggest at least the features/ limitations that have been emphasized above in independent claim 5.

Although the Office Action asserts that overlaps always create parasitic capacitors and this limitation is inherent, none of the cited embodiments disclosed by Ukita teaches or suggests that a source electrode having two opposite sides, which one of them overlap the gate and the other overlaps the compensating structure extending from the gate or gate line. That is, this limitation is not inherent. Accordingly, Applicant respectfully asserts that the rejection of claim 5 is deficient and that claim 5 is in condition for allowance. Further, since dependent claims 6 and 10 incorporate the limitations of claim 5, Applicant respectfully asserts that these claims also are in condition for allowance.

With respect to claim 11, that claim recites:

11. A liquid crystal display device with a capacitance-compensated structure, comprising:
a first process layer comprising a gate line, a gate, and a compensation structure, wherein the gate is electrically connected to the gate line and the compensation structure connects to the gate; and
a second process layer comprising a data line, a source, and a drain, wherein the source and the drain are formed corresponding to both sides of the gate, respectively, the source is electrically connected to the data line, the data line is substantially perpendicular to the gate line, the drain has a first side overlapping the gate and a second side overlapping the compensation structure, wherein the first side is opposite to the second side;
wherein there is an acceptable alignment shift range between the first process layer and the second process layer, the sum of the capacitance of a first parasitic capacitor between the first side of the drain and the gate and a second parasitic capacitor between the second side of the drain and the compensation structure maintain a substantially constant value within the acceptable alignment shift range.

(Emphasis Added).

As set forth above, Applicant respectfully asserts that Ulita does not teach or reasonably suggest at least the features/limitations that have been emphasized above in independent claim 11. The Office Action reads the elements 40 and 41 shown in Fig. 14 of Ulita as the drain in claim 11. The element 40 or 41, however, has a first side overlapping the gate 32 or 34, but does not have an opposite second side overlapping the compensation structure. Applicant notes that the dotted lines 39 shown in Fig. 14 are the edges of the gates 32 and 34, respectively, which do not overlap the element 40 and 41. In fact, in Fig. 14 of Ukita, the compensation structure (the shaded area) and the gate 32 or 34 is overlapped by only one side of the element 40 or 41, rather than by two opposite sides of the element 40 or 41. Accordingly, Applicant respectfully asserts that the rejection of claim 11 is deficient and that claim 11 is in condition for allowance. Further, as dependent claims 12-14 incorporate the limitations of claim 11, these claims also are in condition for allowance.

Rejections under 35 U.S.C. 103

The Office Action indicates that claim 6 stands rejected under 35 U.S.C 103(a) as allegedly unpatentable over by Ukita (US Pat. 6,310,668) in view of Fujikawa (US Pat. 5,995,178). Applicant respectfully traverses the rejections.

In particular, as set forth above, Applicant respectfully asserts that Ukita does not teach or reasonably suggest at least certain limitations that have been emphasized in the base independent claim 5. Since Fujikawa also does not teach or reasonably suggest at least those limitations, the rejection of claim 6 is deficient and that the dependent claim is in condition for allowance.

CONCLUSION

In view of the foregoing, it is believed that all pending claims are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

No fee is believed to be due in connection with this amendment and response to Office Action. If, however, any fee is believed to be due, you are hereby authorized to charge any such fee to deposit account No. 20-0778.

Respectfully Submitted,

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Annotated Drawing Sheet

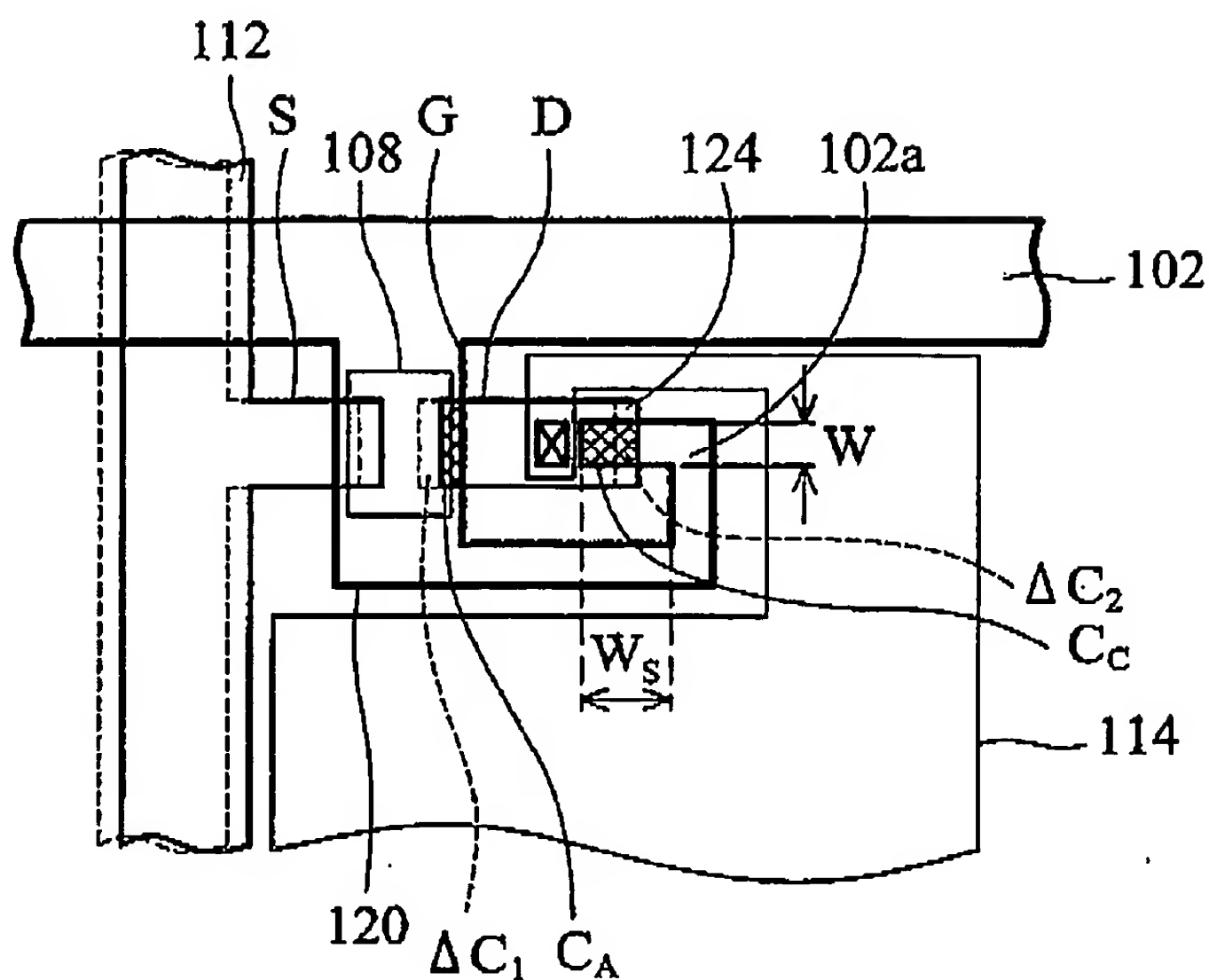


FIG. 6

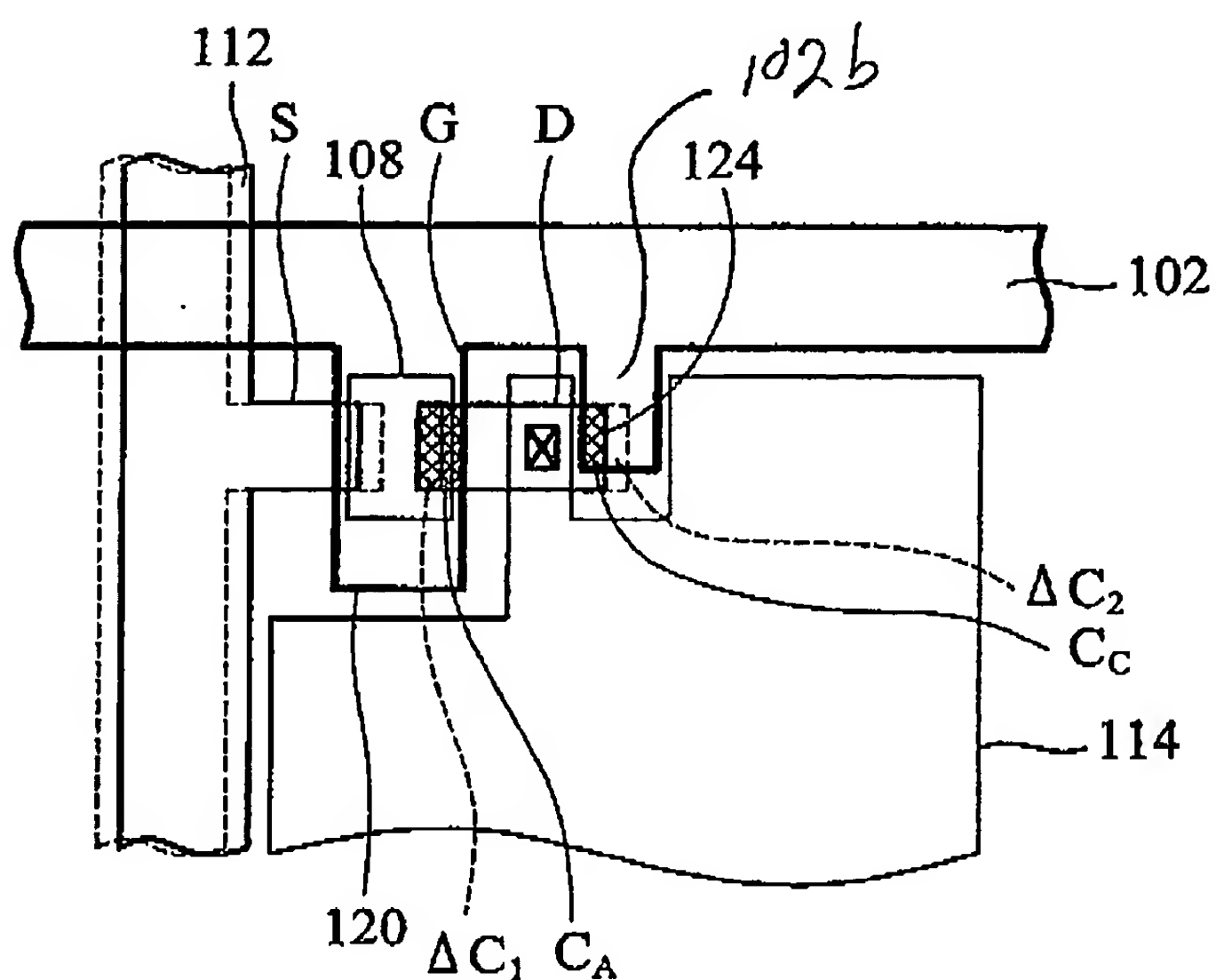


FIG. 7